Case 3503

Papilio hesperus Westwood, 1843 (Insecta, Lepidoptera, PAPILIONIDAE): proposed conservation by the suppression of *Papilio hesperus* Fabricius, 1793 (NYMPHALIDAE)

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Abstract. The purpose of this application, under Article 23.9.3 of the Code, is to conserve the name *Papilio hesperus* Westwood, 1843 (Lepidoptera, PAPILIONIDAE) for a well-known species of butterfly. In 1995 it was proposed to ask the Commission to suppress *Papilio hesperus* Fabricius, 1793 (Lepidoptera, NYMPHALIDAE) in order to conserve *Papilio hesperus* Westwood, 1843 (Lepidoptera, PAPILIONIDAE), but a formal application was never made. The senior name has not otherwise been used except as a junior synonym of *Papilio daedalus* Fabricius, 1775, or in inconclusive discussions, for 200 years or more. Accepting its seniority would be very disruptive to taxonomic stability of butterfly names in much of the African rainforest zone. The suppression of *Papilio hesperus* Fabricius, 1793 for the purposes of both the Principle of Homonymy and the Principle of Priority would coincidentally also serve to conserve the name *Harma chalcis* C. & R. Felder, 1860, which is in widespread use in much of Africa in the combination *Euryphura chalcis*.

Keywords. Nomenclature; taxonomy; Insecta; Lepidoptera; NYMPHALIDAE; PAPILIONIDAE; *Papilio*; *Hamanumida*; *Hamanumida daedalus*; *meleagris*; *hesperus*; *phemius*; *chalcis*; Africa.

Introduction

1. *Papilio daedalus* Fabricius, 1775 (p. 482) (currently *Hamanumida daedalus*) has been widely used since its publication for a very characteristic nymphalid butterfly that is common in all Afrotropical countries (d'Abrera, 1980, p. 346). This name has also universally been accepted as a senior synonym of *Papilio melantha* Fabricius, 1775 (p. 513) (type material of *P. melantha* in Banks Collection, Natural History Museum, London). *Papilio dedalus* Cramer, 1775 (currently *Eupalamides cyparissias* (Fabricius, 1777, p. 257); Heterocera, CASTNIIDAE) is a junior homonym of *Papilio daedalus* Fabricius, 1775 under Article 58.1 of the Code, and is considered to have been published 31 December 1775 (see Opinion 516, *Opinions and Declarations*, **19**: 1–43, May 1958). *Papilio daedalus* Fabricius, 1775 is a senior synonym of *Papilio meleagris* Cramer [1775, p. 102]. During the 19th century *daedalus* and *meleagris* were both widely used, always for what we now know to be seasonal forms of the same species. Drury [1782] gave a good illustration of the latter, thus popularising the name *meleagris*.

2. Hübner [1819, p. 18] placed *Papilio meleagris* in his new genus *Hamanumida* together with several other species that were completely unrelated, but he designated no type species and did not mention *P. daedalus* or *P. hesperus*.

3. *Papilio hesperus* Fabricius, 1793 (p. 47) has also generally been considered a junior synonym of *P. daedalus*, or of uncertain status. There is no type material in the Fabricius Collection (ZMUC, Copenhagen). In his description, Fabricius refers to an illustration made by William Jones from a specimen in Drury's collection. Godart [1824] (p. 327) gave a French translation of the original description and referred to the illustration in 'Jones Icones', placing *hesperus* Fabricius as a species in the genus *Nymphalis* – in which he also placed *P. daedalus* Fabricius, 1775.

4. Westwood [1846–1852] included *P. hesperus* Fabricius, 1793 as a possible member of the Oriental genus *Adolias* Boisduval, 1836 with a question mark, without description and without locality. Westwood also makes reference to 'Jones Icones', which he may have used to reach this conclusion. Moore (1859) included it as sp. 50 in his revision of *Adolias*, referring back to the above works, without any description or further information. No other African species was included in Moore's concept of *Adolias* (currently the Oriental genus *Euthalia* Hübner, [1819]).

5. *Papilio hesperus* Fabricius, 1793 was quoted as a junior synonym of *Aterica daedalus* by Butler [1870], though with the following comment: '. . . the description of *P. hesperus* is not good, and agrees much better with the female of *Adolias phemius* of Doubleday [currently *Euthalia phemius* (Doubleday, [1848])]'. However, Butler presumably did not see the 'Icones', since neither sex of *E. phemius* could possibly be mistaken for the species figured by Jones (see paras 12, 13, below). Had Butler actually seen the 'Icones', he would certainly have considered it a valid species rather than a potential synonym.

Fig. 1. *Papilio hesperus* Fabricius, 1793 [currently *Euryphura chalcis* (C. & R. Felder, 1860)], figures of syntype in Jones' Icones (Oxford University Museum of Natural History), photo by K. Ueda.

6. Kirby's (1871) well-known world catalogue of butterflies placed *P. daedalus* as the only valid species in the genus *Hamanumida* (including *meleagris*, *melantha* and *hesperus* Fabricius as junior synonyms). Scudder (1875, p. 183) considered Kirby's action to be a valid type species restriction for the genus, but Scudder's own deliberate selection of '*P. daedalus* (*meleagris*)' from among all Hübner's putative members of the group should be considered the valid designation of the type species according to Hemming (1967, p. 207). Thus the type species of the genus *Hamanumida* is *Papilio meleagris* Cramer, [1775]. *P. hesperus* Fabricius, 1793 has been treated as a junior synonym of *P. daedalus* in subsequent literature on African Lepidoptera.

7. De Nicéville (1886) mentioned *P. hesperus* Fabricius, 1793 in his list of references under *Euthalia phemius* Doubleday, but also referred to the fact that Butler [1870] placed it as a junior synonym of *Aterica daedalus*. It was not used as a valid name. There will have been additional indecisive discussions in the literature on Oriental butterflies, but we have not seen any from the 20th century.

8. In his influential book, the first to treat the entire known African butterfly fauna, Aurivillius [1899] used *Hamanumida daedalus* as the valid name but treated *meleagris* as a seasonal form 'var. (temp)'. The original descriptions are in accord with this view (*daedalus*: '. . . alæ subtus ochraceæ, immaculatæ aut obsolete maculæ' [dry season]; *meleagris*: '. . . alæ subtus ochraceæ, albomaculatæ' [wet season]). Drury's [1782] illustration of *meleagris* has the white-spotted wet season underside that is almost immaculate in the nominate dry season morph. Aurivillius ([1899], 1912, p. 191) made no reference to *P. hesperus* Fabricius, presumably considering this now to be an 'Indian' matter.

9. Shortly after Scudder's designation of the type species, the combination *Hamanumida daedalus* became almost universally used, with *Papilio hesperus* Fabricius, 1793 usually mentioned as a junior synonym. Following Aurivillius [1899], the name *meleagris* fell into disuse, except as an infrasubspecific name for the wet season morph.

Homonymy

10. Despite usually being considered a junior subjective synonym of *P. daedalus* in Africa and its rather confused treatment in the Indian literature, *Papilio hesperus* Fabricius, 1793 (p. 47) remains an available name and is therefore a senior primary homonym of *Papilio hesperus* Westwood, [1843, p. 189]. *Papilio hesperus* Westwood is a majestic swallowtail (PAPILIONIDAE) that is widespread in the rainforests between Nigeria, Uganda and Zambia (d'Abrera, 1980, p. 16). This combination has been used consistently since the description was published more than 150 years ago, although sometimes removed to the genus *Princeps* Hübner, [1807], which is treated as, at best, a subgenus by most authors (e.g. Collins & Morris, 1985; Ackery et al., 1995; Smith & Vane-Wright, 2008).

11. This homonymy was recognised by Ackery et al. (1995) in the authoritative catalogue 'Carcasson's African Butterflies'. The authors stated: 'The name *Papilio hesperus* Westwood has been in widespread use since its establishment. We propose to make a case to the I.C.Z.N. to here set aside the principle of priority, in order to maintain stability by conserving *P. hesperus* Westwood as a valid nominal taxon'. The plea on *P. hesperus* Westwood was also followed by later researchers (e.g. Larsen, 2003, 2005; Zakharov et al., 2004). Such an application has not yet been made, but is still necessary for nomenclatural stability. If *P. hesperus* Westwood cannot be used, its replacement would be *Papilio horribilis* var. *calabaricus* Distant, 1879 (p. 649). Although *calabaricus* was originally described as a variety and has not been in use as a valid name since 1899, because it was published before 1961 and its author did not give it infrasubspecific rank (Article 45.6.4), it is available.

Discussion

12. We recently discovered that the specimen illustrated in the original Jones' Icones in Oxford (Jones, before summer 1787: see Vane-Wright & Gaonkar, 2006; Vane-Wright, 2010) to which the description of *Papilio hesperus* Fabricius, 1793 refers is very different from his *Papilio daedalus* (for an account of the otherwise unpublished Jones' Icones, see Waterhouse, 1938); this combination cannot be considered a junior synonym thereof. The specimen is not in the Banks Collection at the Natural History Museum, London, nor in the Hunterian Museum, Glasgow, but not all the paintings in the 'Icones' were based on material that formed part of those collections. One of the most frequent sources that Jones used was that of another London-based collector, Dru Drury – whom Jones clearly indicates as the source of his illustration. The most likely depository for Drury specimens is the Macleay collection in Sydney, Australia – but only a small proportion of his material survives there (Hancock et al., 2008), and no original *P. hesperus* Fabricius material has been located.

13. Jones's illustration was, as usual, of exceptional accuracy (e.g. Vane-Wright & Gaonkar, 2006; Vane-Wright, 2010). The specimen of *Papilio hesperus* Fabricius, 1793 figured in the 'Icones' and referenced in the original description is without doubt a male of *Harma chalcis* C. & R. Felder, 1860 from 'Guinea'. Though this species is actually compatible with Fabricius's summary description, no-one ever made this suggestion before. Butler [1870] would certainly have done so (see para. 3) had he actually seen the 'Icones' at the time, since the Felders' work was well known to him by then. *Harma chalcis* is now placed in the genus *Euryphura* Staudinger, 1891, and is widely distributed

throughout the African rainforest zone. The name *chalcis* has been consistently used since it was described in 1860 in various publications and, since 1891, nearly always as *Euryphura chalcis* – although Ackery et al. (1995) treated *Euryphura* as a subgenus of *Euriphene* Boisduval, 1847. It has sometimes been confused with *Euryphura plautilla* (Hewitson, 1865). Under the provisions of Article 23.9.1 of the Code, the condition of Article 23.9.1.1 is met in the case of *P. hesperus* Fabricius, since the name is a senior synonym of *E. chalcis* and has not been used as a valid name after 1899. However, *E. chalcis* has not been used in at least 25 works, published by at least 10 authors in the immediately preceding 50 years and encompassing a span of not less than 10 years (the list is held by the Secretariat), so the condition of Article 23.9.1.2 is not met. Thus we consider that the use of *P. hesperus* Fabricius (the senior synonym) would threaten stability or universality, and so wish to maintain use of *E. chalcis* (the junior synonym) under the provision of Article 23.9.3.

14. *Papilio hesperus* Fabricius, 1793 has effectively never been used except as a synonym of *Papilio daedalus* or given uncertain status before 1899, as mentioned above (paras 3, 4, 13). *Papilio hesperus* Westwood, 1843, on the other hand, is at present widely used (a list of 53 publications using this combination, the status of which has never been questioned, is held by the Secretariat). It is also well-established as the name for a species-group of four or five similar, largely allopatric swallowtails (the *Papilio hesperus*-group: e.g. Berger, 1950; Munroe, 1961; Hancock, 1983; Zakharov et al., 2004). The term was used earlier in a slightly wider sense by Aurivillius (1899, p. 16), and in 'Seitz' (Aurivillius, 1908, p. 16).

15. The suppression of *Papilio hesperus* Fabricius, 1793 would serve to avoid significant confusion concerning the well-known *Papilio hesperus* Westwood, 1843, the *Papilio hesperus*-group, and the subspecific name associated with the species. It would also dispel any doubt as to the continued validity of *Euryphura chalcis* (C. & R. Felder, 1860), or the recurrence of the name *hesperus* in discussions on Oriental *Euthalia* Hübner, [1819] (formerly *Adolias*). There would be no negative consequences; interpretation of all existing literature would remain unaffected. However, *P. hesperus* Fabricius remains a primary homonym. Under the provisions of Article 23.9.1 of the Code, the condition of Article 23.9.1.1 is met for conserving *P. hesperus* Westwood, but that of Article 23.9.1.2 is not met, as in *E. chalcis*.

16. Under the provisions of Articles 23.9.1 and 23.9.2 of the Code, it would be possible to conserve the homonymous name *P. hesperus* Westwood by declaring it a nomen protectum, without requiring a ruling by the Commission. However, the condition of Article 23.9.1.2 is not met in the case of the synonymous name *E. chalcis*, so a strict application of the Code would require replacing this name with its senior synonym, unless the senior name is suppressed under Article 23.9.3. If the Fabrician name were not suppressed, then its resurrection, as *Euryphura hesperus* (Fabricius, 1793), would necessitate a Commission ruling under Article 23.9.5 to conserve Westwood's name, since Article 23.9.1.1 would no longer be satisfied. Therefore, in order to maintain nomenclatural stability and to reduce potential future confusion, it is proposed that the name *Papilio hesperus* Fabricius, 1793, be suppressed under Article 23.9.3 of the Code.

17. The International Commission on Zoological Nomenclature is accordingly asked:

(1) to use its plenary power to suppress the name *hesperus* Fabricius, 1793, as published in the binomen *Papilio hesperus*, for the purposes of both the Principle of Priority and the Principle of Homonymy;

(2) to place on the Official List of Specific Names in Zoology the name *hesperus* Westwood, 1843, as published in the binomen *Papilio hesperus*;
(3) to place on the Official Index of Rejected and Invalid Specific Names in Zoology the name *hesperus* Fabricius, 1793, as published in the binomen *Papilio hesperus* and as suppressed in (1) above.

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